

Bunker Hill
AMD Mitigation Concepts
5.1: Plug/Bypass Inez Shaft

DATE: 06/13/2000
PROJECT NO.: 152215.FS.02
ESTIMATE BY: D. Hedglin

Order of Magnitude Cost Opinion

DESCRIPTION	QTY	UNIT	TOTAL UNIT COST	TOTAL COST	COMMENTS
Plug Shaft					
Survey to Determine Location of Shaft	1	LS	3,200.00	\$3,200	
Provide 2000' of 15' wide access road	2,000	LF	25.00	\$50,000	
Excavate to Find Location	1	LS	51,690.24	\$51,690	15 days
Sheetpiles	2,700	SF	21.65	\$58,455	
Excavate to Top of Rock	555	CY	34.46	\$19,125	
Backfill Excavation	555	CY	13.30	\$7,381	
Prepare for Plug	1	LS	5,319.96	\$5,320	
Excavate & Waste 16' of Shaft	30	CY	258.45	\$7,754	largely handwork
Concrete Plug	30	CY	143.08	\$4,292	
Hydroseed all disturbed areas	60,000	SF	0.10	\$6,000	
Regrade Stream	1	LS	51,690.24	\$51,690	
SUBTOTAL				\$264,908	
MISC ALLOWANCE	10%			\$26,491	
SUBTOTAL				\$291,399	
CONTINGENCY	50%			\$145,699	
SUBTOTAL				\$437,098	
MOBILIZATION	15%			\$65,565	
CONSTRUCTION TOTAL				\$502,663	
SALES TAX ON MATERIALS	5.0%			\$2,175	
ENGINEERING AND SUPPORT	20%			\$100,533	
CONST MANAGEMENT	8%			\$40,213	
CAPITAL TOTAL (ROUNDED)				\$650,000	
ANNUAL O&M COST			\$500		
NPV OF ANNUAL O&M COSTS (30 YEARS @ 7% INTEREST)				\$6,000	
TOTAL 30-YEAR PRESENT WORTH COST @ 7% INTEREST				\$656,000	

NOTES:

Misc Allowance markup is to include items known to exist but cannot be quantified at this time.
Contingency is for scope changes that are presently unforeseen.
Mobilization includes bonds, insurance, temporary facilities, health & safety, demobilization, etc.